

**Flood Control Project Maintenance  
Levee Inspections**

**Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2014**

**Knights Landing Ridge Drainage District**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Knights Landing Ridge Cut	Right	6.36	10/29/2014 10/29/2014	Clay Thomas

LM Start		Rating **	A	Issue No.	3		
LM End		Issue Type +	Ma	Location *	N/A		
Category	Earthen Levee			GPS Latitude/Longitude			
				Start		End	
Item	Operations & Maintenance Manuals				°		°
					°		°
DWR ID	DWR_NA0008_01_s_2013_3						
Action/Comments							
Inspector Comments: District has levee manuals.							

No Photos

LM Start		Rating **	A	Issue No.	8		
LM End		Issue Type +	Ma	Location *	N/A		
Category	Earthen Levee			GPS Latitude/Longitude			
				Start		End	
Item	Emergency Supplies & Equipment				°		°
					°		°
DWR ID	DWR_NA0008_01_s_2013_8						
Action/Comments							
Inspector Comments: District maintains a stockpile of flood response material.							

No Photos

LM Start		Rating **	A	Issue No.	9		
LM End		Issue Type +	Ma	Location *	N/A		
Category	Earthen Levee			GPS Latitude/Longitude			
				Start	End		
Item	Flood Preparedness & Training				°		°
					°		°
DWR ID	DWR_NA0008_01_s_2013_9						
Action/Comments							
Inspector Comments: District has written response plan and regular flood response training.							

No Photos

<b>* Location</b> LS : Land Side    N/A : Not Applicable WS : Water Side CR : Crown	<b>** Rating</b> A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	<b>+ Issue Type</b> Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
--	--	---	---

**Flood Control Project Maintenance  
Levee Inspections**

**Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2014**

**Knights Landing Ridge Drainage District**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Knights Landing Ridge Cut	Right	6.36	10/29/2014 10/29/2014	Clay Thomas

LM Start	0.00	Rating **	A	Issue No.	199
LM End	6.43	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation				°
					°
DWR ID	DWR_NA0008_01_f_2014_199				
Action/Comments					
Control annual grass and weeds on the levee slopes and easements.					

Photo 1 of 1 : FA\_2014\_NA0008\_256\_199\_20141030\_00370.jpg



Levee mile 5.90, vegetation on levee slopes. Fall 2014.

LM Start	2.61	Rating **	A/W	Issue No.	19
LM End	2.61	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Cracking			38.747218 °	38.747218 °
				-121.694450 °	-121.694450 °
DWR ID	DWR_NA0008_01_f_2013_19				
Action/Comments					
Monitor and have inspected by geotechnical engineer.					
Inspector Comments: Cracks along crown and down waterside slope.					

Photo 1 of 1 : FA\_2014\_NA0008\_256\_19\_20141014\_00003.jpg

Cracking along the waterside shoulder of the crown the length of 20 feet.  
Fall 2013

LM Start	3.26	Rating **	M	Issue No.	1
LM End	3.26	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	USACE Erosion Survey			38.758432 °	38.759332 °
				-121.695158 °	-121.696063 °
DWR ID	DWR_NA0008_01_f_2014_1				
Action/Comments					
Inspector Comments: 2011 - Toe scour and bank slumping. 2013: Site is part of the extended inventory, last inspected 2011. [2013 Site ID: KLR_3-5_R]					

No Photos

<b>* Location</b> LS : Land Side    N/A : Not Applicable WS : Water Side CR : Crown	<b>** Rating</b> A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	<b>+ Issue Type</b> Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
--	--	---	---

**Flood Control Project Maintenance  
Levee Inspections**

**Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2014**

**Knights Landing Ridge Drainage District**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Knights Landing Ridge Cut	Right	6.36	10/29/2014 10/29/2014	Clay Thomas

LM Start	3.54	Rating **	M	Issue No.	20
LM End	3.54	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Erosion / Bank Caving			38.759910 °	38.759910 °
				-121.696920 °	-121.696920 °
DWR ID	DWR_NA0008_01_f_2013_20				
Action/Comments					
Note and monitor erosion site.					

Photo 1 of 2 : FA\_2014\_NA0008\_256\_20\_20141014\_00004.jpg



Another view of the erosion cutting into the slope. Fall 2013

Photo 2 of 2 : FA\_2014\_NA0008\_256\_20\_20141014\_00005.jpg



Deep erosion at the bottom of the waterside slope 3-4 foot cut. Fall 2013

LM Start	<b>3.54</b>	Rating **	M	Issue No.	<b>20 (cont)</b>
LM End	<b>3.54</b>	Issue Type +	Ma	Location *	WS

LM Start	3.86	Rating **	M	Issue No.	2
LM End	3.86	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	USACE Erosion Survey			38.764037 °	38.764905 °
				-121.701434 °	-121.702074 °
DWR ID	DWR_NA0008_01_f_2014_2				
Action/Comments					
Inspector Comments: 2011 - Toe erosion and erosion pockets from tree popouts. More tree popouts are expected due to the eroding toe. 2013: Site is part of the extended inventory, last inspected 2011. [2013 Site ID: KLR_3-9_R]					

No Photos

<b>* Location</b> LS : Land Side    N/A : Not Applicable WS : Water Side CR : Crown		<b>** Rating</b> A : Acceptable                      N : Not Inspected/Rated M : Minimally Acceptable        C : Corrected U : Unacceptable                  A/W : Acceptable but Monitor & Maintain		<b>+ Issue Type</b> Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
--	--	---	--	---

**Flood Control Project Maintenance  
Levee Inspections**

**Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2014**

**Knights Landing Ridge Drainage District**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Knights Landing Ridge Cut	Right	6.36	10/29/2014 10/29/2014	Clay Thomas

LM Start	6.17	Rating **	M	Issue No.	7
LM End	6.41	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			38.790007 °	38.792433 °
				-121.723308 °	-121.726463 °
DWR ID	DWR_NA0008_01_s_2012_7				
Action/Comments					
Equipment					

Photo 1 of 2 : FA\_2014\_NA0008\_256\_7\_20141014\_00001.jpg



Equipment and irrigation pipe lays on the landside levee slope. Fall 2013

Photo 2 of 2 : FA\_2014\_NA0008\_256\_7\_20141014\_00002.jpg



A current view of the equipment on the levee slope. Spring 2014

LM Start	<b>6.17</b>	Rating **	M	Issue No.	<b>7 (cont)</b>
LM End	<b>6.41</b>	Issue Type +	Ma	Location *	LS

**\* Location**  
LS : Land Side    N/A : Not Applicable  
WS : Water Side  
CR : Crown

**\*\* Rating**  
A : Acceptable                      N : Not Inspected/Rated  
M : Minimally Acceptable        C : Corrected  
U : Unacceptable                  A/W : Acceptable but Monitor & Maintain

**+ Issue Type**  
Ma : Maintenance Deficiency  
Ob : Design & System Obsolescence  
En : Enforcement

**Flood Control Project Maintenance  
Levee Inspections**

**Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2014**

**Knights Landing Ridge Drainage District**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Knights Landing Ridge Cut	Left	6.03	10/29/2014 10/29/2014	Clay Thomas

LM Start	0.00	Rating **	A	Issue No.	13
LM End	5.88	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation				°
					°
DWR ID	DWR_NA0008_02_f_2014_13				
Action/Comments					
Control annual grass and weeds on the levee slopes and easements.					

Photo 1 of 1 : FA\_2014\_NA0008\_257\_13\_20141030\_00016.jpg



Levee mile 5.88, vegetation on levee slopes. Fall 2014.

LM Start	2.74	Rating **	M	Issue No.	2
LM End	2.74	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	USACE Erosion Survey			38.754899 °	38.757925 °
				-121.692653 °	-121.693048 °
DWR ID	DWR_NA0008_02_f_2014_2				
Action/Comments					
Inspector Comments: 2006 - The whole levee toe area is slowly slumping into the channel (creep) due to dewatering and poor slope soils. Occasional piping in the levee slope evident as well. Pistol-butted trees at the levee toe indicate slow retreat. 2011 - Multiple scallops throughout the site and slumping of the toe. 2013: Site is part of the extended inventory, last inspected 2011. [2013 Site ID: KLR_3-0_L]					

No Photos

LM Start	3.01	Rating **	M	Issue No.	3
LM End	3.01	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	USACE Erosion Survey			38.758587 °	38.760053 °
				-121.693359 °	-121.694686 °
DWR ID	DWR_NA0008_02_f_2014_3				
Action/Comments					
Inspector Comments: 2006 - The whole levee toe area is slowly slumping into the channel (creep) due to dewatering and poor slope soils. Occasional piping in the levee slope evident as well. Pistol-butted trees at the levee toe indicate slow retreat. 2011 - Slumping of the levee toe. 2013: Site is part of the extended inventory, last inspected 2011. [2013 Site ID: KLR_3-1_L]					

No Photos

<b>* Location</b> LS : Land Side    N/A : Not Applicable WS : Water Side CR : Crown		<b>** Rating</b> A : Acceptable                      N : Not Inspected/Rated M : Minimally Acceptable        C : Corrected U : Unacceptable                  A/W : Acceptable but Monitor & Maintain		<b>+ Issue Type</b> Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
--	--	---	--	---



**Flood Control Project Maintenance  
Levee Inspections**

**Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2014**

**Knights Landing Ridge Drainage District**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Knights Landing Ridge Cut	Left	6.03	10/29/2014 10/29/2014	Clay Thomas

LM Start	3.05	Rating **	U	Issue No.	230
LM End	3.05	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Erosion / Bank Caving			38.759112 °	38.759112 °
				-121.693638 °	-121.693638 °
DWR ID	DWR_NA0008_02_f_2013_230				
Action/Comments					
Note and monitor erosion site.					

Photo 1 of 1 : FA\_2014\_NA0008\_257\_230\_20141014\_00011.jpg



Erosion at the bottom of the slope. It appears that a fallen tree has caused a sink hole. Fall 2013

LM Start	3.08	Rating **	U	Issue No.	229
LM End	3.08	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Erosion / Bank Caving			38.759542 °	38.759542 °
				-121.694007 °	-121.694007 °
DWR ID	DWR_NA0008_02_f_2013_229				
Action/Comments					
Note and monitor erosion site. Inspector Comments: Erosion is undermining large oak tree and is growing.					

Photo 1 of 2 : FA\_2014\_NA0008\_257\_229\_20141014\_00009.jpg



Another view of the vertical cut at the bottom of the slope. Fall 2013

LM Start	<b>3.08</b>	Rating **	U	Issue No.	<b>229 (cont)</b>
LM End	<b>3.08</b>	Issue Type +	Ma	Location *	WS

Photo 2 of 2 : FA\_2014\_NA0008\_257\_229\_20141014\_00010.jpg



Waterside eroision vertical cut at bottom of slope. Fall 2013

**\* Location**  
LS : Land Side    N/A : Not Applicable  
WS : Water Side  
CR : Crown

**\*\* Rating**  
A : Acceptable                      N : Not Inspected/Rated  
M : Minimally Acceptable        C : Corrected  
U : Unacceptable                  A/W : Acceptable but Monitor & Maintain

**+ Issue Type**  
Ma : Maintenance Deficiency  
Ob : Design & System Obsolescence  
En : Enforcement

**Flood Control Project Maintenance  
Levee Inspections**

**Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2014**

**Knights Landing Ridge Drainage District**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Knights Landing Ridge Cut	Left	6.03	10/29/2014 10/29/2014	Clay Thomas

LM Start	3.63	Rating **	M	Issue No.	4
LM End	3.63	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	USACE Erosion Survey			38.765522 °	38.767336 °
				-121.700608 °	-121.701023 °
DWR ID	DWR_NA0008_02_f_2014_4				
Action/Comments					
Inspector Comments: 2011 - The toe has eroded away and there are a few scallops from bank slumping. 2013: Site is part of the extended inventory, last inspected 2011. [2013 Site ID: KLR_3-7_L]					

No Photos

LM Start	3.73	Rating **	C	Issue No.	16
LM End	3.73	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			38.766933 °	38.766933 °
				-121.700894 °	-121.700894 °
DWR ID	DWR_NA0008_02_s_2014_16				
Action/Comments					
Trees / Woody Vegetation					

No Photos

LM Start	4.35	Rating **	M	Issue No.	5
LM End	4.35	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	USACE Erosion Survey			38.775271 °	38.778115 °
				-121.703685 °	-121.706195 °
DWR ID	DWR_NA0008_02_f_2014_5				
Action/Comments					
Inspector Comments: 2011 - This site is the downstream section of the old KLR 5.3L site. Levee toe is slowly retreating. Cracking on top of the levee may indicate potential mass movement. 2013: Site is part of the extended inventory, last inspected 2011. [2013 Site ID: KLR_4-7_L]					

No Photos

<b>* Location</b> LS : Land Side    N/A : Not Applicable WS : Water Side CR : Crown	<b>** Rating</b> A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	<b>+ Issue Type</b> Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
--	--	---	---

**Flood Control Project Maintenance  
Levee Inspections**

## Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2014

### Knights Landing Ridge Drainage District

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Knights Landing Ridge Cut	Left	6.03	10/29/2014 10/29/2014	Clay Thomas

LM Start	4.65	Rating **	U	Issue No.	15
LM End	4.65	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			38.778822 °	38.778822 °
				-121.706515 °	-121.706515 °
DWR ID	DWR_NA0008_02_s_2014_15				
Action/Comments					
Trees / Woody Vegetation					

Photo 1 of 1 : FA\_2014\_NA0008\_257\_15\_20141014\_00004.jpg



A cottonwood tree may have been struck by lightning. The tree is split into tree parts. Spring 2014

LM Start	4.78	Rating **	A/W	Issue No.	228
LM End	4.78	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Cracking			38.780080 °	38.780080 °
				-121.708137 °	-121.708137 °
DWR ID	DWR_NA0008_02_f_2013_228				
Action/Comments					
Monitor and have inspected by geotechnical engineer.					

No Photos

LM Start	4.86	Rating **	A/W	Issue No.	226
LM End	4.88	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Cracking			38.780858 °	38.781102 °
				-121.709093 °	-121.709385 °
DWR ID	DWR_NA0008_02_f_2013_226				
Action/Comments					
Monitor and have inspected by geotechnical engineer.					

Photo 1 of 1 : FA\_2014\_NA0008\_257\_226\_20141014\_00006.jpg



Cracking on the landside is 3-4 inches wide and 12 inches deep. Fall 2013

**\* Location**

LS : Land Side    N/A : Not Applicable  
WS : Water Side  
CR : Crown

**\*\* Rating**

A : Acceptable                      N : Not Inspected/Rated  
M : Minimally Acceptable        C : Corrected  
U : Unacceptable                  A/W : Acceptable but Monitor & Maintain

**+ Issue Type**

Ma : Maintenance Deficiency  
Ob : Design & System Obsolescence  
En : Enforcement



**Flood Control Project Maintenance  
Levee Inspections**

**Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2014**

**Knights Landing Ridge Drainage District**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Knights Landing Ridge Cut	Left	6.03	10/29/2014 10/29/2014	Clay Thomas

LM Start	4.86	Rating **	A/W	Issue No.	227
LM End	4.86	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Cracking			38.780858 °	38.780858 °
				-121.709095 °	-121.709095 °
DWR ID	DWR_NA0008_02_f_2013_227				
Action/Comments					
Monitor and have inspected by geotechnical engineer.					

Photo 1 of 2 : FA\_2014\_NA0008\_257\_227\_20141014\_00007.jpg



Another view of the cracking on the levee slope. Fall 2013

Photo 2 of 2 : FA\_2014\_NA0008\_257\_227\_20141014\_00008.jpg



Cracking on levee slope 1-2 inches wide and 6 inches deep. Fall 2013

LM Start	5.45	Rating **	M	Issue No.	6
LM End	5.45	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	USACE Erosion Survey			38.786566 °	38.792395 °
				-121.716724 °	-121.724091 °
DWR ID	DWR_NA0008_02_f_2014_6				
Action/Comments					
Inspector Comments: 2011 - This site is the upstream section of the old KLR 5.3L site. Levee toe is slowly retreating. Cracking on top of the levee may indicate potential mass movement. 2013: Site is part of the extended inventory, last inspected 2011. [2013 Site ID: KLR_5-8_L]					

No Photos

<b>* Location</b> LS : Land Side    N/A : Not Applicable WS : Water Side CR : Crown	<b>** Rating</b> A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	<b>+ Issue Type</b> Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
--	--	---	---